

Java Array vs Java List

An array is mutable, and we saw, that we could set or change values in the array, but we could not resize it.

Java gives us several classes that let us add and remove items, and resize a sequence of elements.

These classes are said to **implement** a List's behavior.

So what is a list?

So what is a List?

In our everyday life, we use lists all the time.

When we're going to the grocery store, we've got a list.

We have a list of things we need to do, a list of addresses, a list of contact numbers, etc.

It wouldn't be a very useful list however, if we started with 10 items we could change, but never add or remove an item.

So what is a List?

List is a special type in Java, called an Interface.

For now, I'll say a List Interface describes a set of method signatures, that all List classes are expected to have.

Let's look at some of these methods. I'm going to pull up the List methods in Java's API.

The ArrayList

The ArrayList is a class, that really maintains an array in memory, that's actually bigger than what we need, in most cases.

It keeps track of the capacity, which is the actual size of the array in memory.

But it also keeps track of the elements that've been assigned or set, which is the size of the ArrayList.

As elements are added to an ArrayList, its capacity may need to grow. This all happens automatically, behind the scenes.

This is why the ArrayList is resizable.